

2/2 022

UNCLASSIFIED

PROCESSING DATE--13NOV70

CIRC ACCESSION NO--AP0133702

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE EFFECT OF LOCALIZED SPINS IS STUDIED AS APPLIED TO ELECTRON HOLE SINGLET COUPLING. THE TRANSITION TEMPERATURE IS DETERMINED AS A FUNCTION OF MAGNETIC IMPURITY CONCENTRATION. THE TRANSITION TEMPERATURE IS SHOWN TO DECREASE WHEN INCREASING IMPURITY CONCENTRATIONS AND THE VALUE OF INTERACTION EXCHANGE. (10 REFS.).

INFO ACCEPTE

1/2 046 UNCLASSIFIED PROCESSING DATE--27NOV70
TITLE--IONIZATION AGING OF A POLYETHYLENE FILM -U-
AUTHOR-(04)-BAGIROV, M.A., MALIN, V.P., GAZARYAN, YU.N., VOLCHENKOV, E.YA.
COUNTRY OF INFO--USSR
SOURCE--PLAST. MASSY 1970, (2), 44-6
DATE PUBLISHED-----70

SUBJECT AREAS--CHEMISTRY, MATERIALS

TOPIC TAGS--IONIZATION, POLYETHYLENE, DIELECTRIC PERMEABILITY, IR
SPECTRUM, SPECTROSCOPIC ANALYSIS, CHEMICAL BONDING, SURFACE PROPERTY,
OXIDATION, MATERIAL DEGRADATION, PLASTIC FILM

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--1992/1702

STEP NO--UR/0191/70/000/002/0044/0046

CIRC ACCESSION NO--AP0112696

UNCLASSIFIED

2/2 046

UNCLASSIFIED

PROCESSING DATE--27NOV70

CIRC ACCESSION NO--AP0112696

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. POLYETHYLENE (I) FILMS (55 MU THICK) WERE SUBJECTED TO ELEC. DISCHARGES AT A VOLTAGE OF 7-11 KV (UNDER N OR AIR) AND THE RESULTING CHANGES IN DIELEC. LOSS FACTOR (TAN DELTA), DIELEC. PERMEABILITY (EPLISON), BREAKDOWN STRENGTH (E), AND THICKNESS (H) WERE RECORDED. IONIZATION AGING CAUSED A LINEAR DECREASE IN E AND H (THE RATE OF DECREASE BEING PROPORTIONAL TO THE VOLTAGE APPLIED), AND A DECREASE IN EPLISON. A PLOT OF TAN DELTA VS. TEMP. REVEALED A NEW DOMAIN OF LOSSES AT 20-80DEGREES, PRESUMABLY DUE TO THE PRESENCE OF LOW MOL. WT. COMPODS. IR SPECTRA OF AGED I FILMS (IN AIR) HAD ABSORPTION BANDS CHARACTERISTIC OF OH GROUPS AND C:C DOUBLE BONDS AT 3200-600 AND 1640 CM PRIME NEGATIVE1, RESP. AN EQUATION WAS DERIVED FOR THE CALCN. OF THE NO. OF OXIDIZED UNITS IN I. IONIZATION AGING CAUSED CHEM. CHANGES IN A RELATIVELY THIN SURFACE LAYER OF I FILMS.

UNCLASSIFIED

USSR

UDC 616.155.392.2:613.62:655.521.2

ABDULLAYEV, G. M., and BAGIROV, N. M., Department of Hematology and Blood Transfusion, (Head Professor G. M. Abdullayev) stet Azerbaydzhan State Institute for Advanced Training of Physicians imeni A. Aliev

"A Case of Lympholeucosis in a Patient Who Had Been in Prolonged Contact With Ethylated Gasoline"

Baku, Azerbaydzhanskiy Meditsinskiy Zhurnal, Vol 47, No 7, Jul 70, pp 64-67

Abstract: Tetraethyl lead is a highly active substance which affects the medulla and hematopoiesis. The literature contains considerable information on various diseases caused by long-term exposure to the ethylating liquid used in gasoline. A case history is presented of a locksmith who developed lympholeucosis as a result of exposure to ethylated gasoline. Four other cases of leucosis associated with long-term exposure to ethylated were also observed. It was concluded that chemical factors played an etiological role in all of the cases. Periodic check-ups are necessary for workers in contact with gasoline containing tetraethyl lead in order to ensure early detection of shifts in the hemopoietic apparatus.

1/1

1/2 018 UNCLASSIFIED PROCESSING DATE--27NOV70
TITLE--EFFECT OF TOTAL CORONILLA HYRCANA GLYCOSIDES ON THE CARDIOVASCULAR
SYSTEM -U-
AUTHOR-(02)-ABDULLAYEV, R.A., BAGIROV, R.B.
COUNTRY OF INFO--USSR
SOURCE--AZERB. MED. ZH. 1970, 47(1), 33-6
DATE PUBLISHED-----70

B

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--PROCESSED PLANT PRODUCT, CARDIOVASCULAR DRUG, BLOOD PRESSURE,
DRUG DOSAGE RESPONSE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--3006/0218

STEP NO--UR/0488/70/047/001/0033/0036

CIRC ACCESSION NO--AP0134023

2/2 018

UNCLASSIFIED

PROCESSING DATE--27NOV70

CIRC ACCESSION NO--AP0134023

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE TOTAL GLYCOSIDES OF C. HYRCANA AT 1 MG-KG CAUSED DEATH OF ANIMALS AND AT 0.25-0.5 MG-KG REDUCED THE CARDIAC RHYTHM AND REINFORCED THE SYSTOLES, WITH REDN. OF THE BLOOD PRESSURE AND DEEPENING OF RESPIRATION. THE TOTAL GLYCOSIDES ALSO INDUCED CONTRACTION OF BLOOD VESSELS AT CONCNS. OF 1:100,000; 1:50,000; 1:25,000, A PHENOMENON WHICH INCREASED WITH CONCEN.

Acc. No. **101365**

BAGIEV A.H. Ref. Code:
Abstracting Service: **UR 0482**

Soviet Inventions Illustrated, Section III Mechanical and General,
Derwent, **3-70** 246226 ELECTROMAGNETIC VALVE WITH PILOT CONTROL

consists of housing 1 with inlet 2 and outlet
3 pipes in the form of bushes with apertures, and a
resilient tube 4 over the bushes to form an annular
chamber with the housing. In order to provide greater
reliability, the annular chamber v is connected by
channel k to pilot valve 5 so that when electromagnet
6 is switched off the pilot valve chamber is connected
to inlet 2, and when the electromagnet is switched
on it is connected to the atmosphere. In the closed
position pilot valve 5 is pressed by spring 7 against
the upper seat, and tube 4 closes slots g and d.
When pressure is fed to chamber a, gas passes into
chamber v through channels l and m. When pilot valve
5 electromagnet is switched on, the valve closes the
lower seat and opens the upper one, allowing pressure
from chamber v to escape into the atmosphere. The
difference in pressures between chambers a and v then
causes tube 4 to expand and allow gas to pass from
chamber a to b, opening the valve.

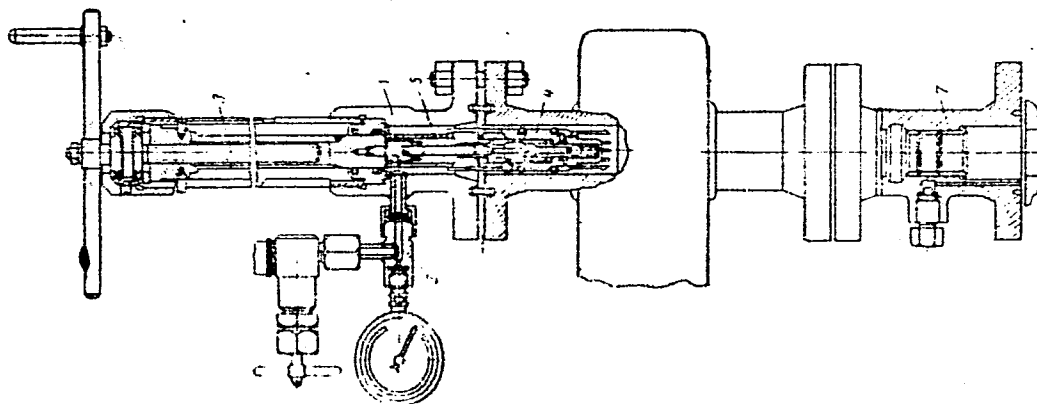
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H.T. (30 10.69) Bul. 20/11.6.69. Class 47g, Int. Cl.
F 16k.

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18

REEL/FRA
19851187

AA0101365



19851188

USSR

UDC: 517.948.33

AGRANOVSKIY, M. L. and BAGLAY, R. D.

"Identifying the Characteristics of Objects Containing a Nonlinear Element"

Novosibirsk, Avtometriya, No 1, 1973, pp 74-78

Abstract: This paper is based in part on earlier papers which solved the problem of identifying an object consisting of one linear inertial and one nonlinear inertialess link. The present paper provides a solution for the problem of identifying the characteristics of the mathematical model for a special form of nonlinear object consisting of two linear inertial links separated by a nonlinear inertialess link. The initial information sets on the problem are the results of the signal measurement at the input and output of the object. The authors choose as their example of the physical object the powerful miniature devices produced in industry. The equivalent block diagram of such a device is shown. The problem of identification is solved under the assumption that the links of this equivalent system do not load one another. The stationary and transient states of such a system are considered.

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Recorders and Transducers

USSR

UDC: 53.08+535.853

~~BAGLAY, R. D.~~, ISKOL'DSKIY, A. M., KUDRYASHOV, M. I., and
NESTERIKHIN, Yu. Ye.

"Electron-Optical Recorder 'Spectrum' as an Element in Automated
Spectrum Investigation Systems"

Novosibirsk, Avtometriya, No 6, 1971, pp 24-41

Abstract: The Soviet spectral recording device "Spektr" (Spectrum) performs rapid conversion of unidimensional spatial distributions of electric signals and records them, by means of an oscilloscope, on photographic film. The recording system in the device is a double electronic-optical converter with electrostatic focusing and electron-beam deflection, given the designation LI-602. The purpose of this article is to consider the system errors and noise in the LI-602, describe the structure of the mechanical and electronic blocks in it, set up its mathematical model as a passive filter, present the results of typical experiments performed with data processing equipment, and propose several methods for eliminating systematic and random errors. A photograph of the device is reproduced together with some samples of the oscillographic output. Credit for assisting in the work is given to L. P. Baykov and V. D. Prilepskikh

1/2 019 UNCLASSIFIED PROCESSING DATE--16OCT70
TITLE--EFFECT OF HYDROCORTISONE ACETATE ON THE PENTOSE CYCLE OF EHRlich
ASCITES TUMOR CELLS -U-
AUTHOR-(02)-BAGLEY, YE.A., KAZMIN, S.V. *B*
COUNTRY OF INFO--USSR
SOURCE--DOKL. AKAD. NAUK SSSR 1970, 190(3), 713-16 (BIOCHEM)
DATE PUBLISHED-----70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES
TOPIC TAGS--HYDROCORTISONE, TUMOR, CELL PHYSIOLOGY, MITOSIS

CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAmE--1985/1892 STEP NO--UR/0020/70/190/003/0713/0716
CIRC ACCESSION NO--AT0101936
UNCLASSIFIED

2/2 019 UNCLASSIFIED PROCESSING DATE--16OCT70
CIRC ACCESSION NO--AT0101936
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. HYDROCORTISONE ACTETATE INJECTED 3
TIMES AT 125 MG PER KG INTO MICE STARTING 5 DAYS AFTER TRANSPLANTATION
OF EHRLICH ASCITES TUMOR CELLS INHIBITED THE TUMOR PENTOSE CYCLE
ENZYMES, DECREASING THE RATE OF FORMATION OF PENTOSE AND SEDONEPTULOSE
7,PHOSPHATE FROM FRUCTOSE 6,PHOSPHATE BUT NOT FROM RIBOSE 5,PHOSPHATE.
HYDROCORTISONE ACETATE CAUSED REARRANGEMENT OF PENTOSE CYCLE FUNCTION
FROM AN OXIDATIVE TO NONOXIDATIVE MECHANISM. THIS REARRANGEMENT MAY
HAVE A NEG. EFFECT ON THE MITOTIC ACTIVITY OF TUMOR CELLS.
FACILITY: UKR. NAUCH.--ISSLED. INST. EKSP. KLIN. ONKOL., KIEV, USSR.

UNCLASSIFIED

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TECHNICAL TRANSLATION

1001 PSTC JLT 23-2015-72

27 AUG 72

RUSSIAN TITLE: PROBLEMS OF LASER BEAM DATA TRANSMISSION
PROCEEDINGS OF THE FIRST ALL-UNION CONFERENCE, KIEV,
SEPTEMBER 1966

FOREIGN TITLE: PROBLEM PEREDACHI INFORMATSII LAZERNYI IZLUCHENIYEM

AUTHOR: I. A. DERUGIR, ET AL.

SOURCE: KIEV ORDER OF LENIN STATE UNIVERSITY
INENI T.G. SCHEVCHENKO

Translated for FSTC by ACS1

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USSR

UDC 621.373.029.7

BAGLIKOV, V. B., PANYGIN, V. N.

"Modulating the Coupling of a Gas Laser With High Amplification of the Active Element"

Moscow, Radiotekhnika i Elektronika, No 11, Nov 71, pp 2144-2151

Abstract: Coupling modulation is theoretically and experimentally studied for a laser in which the distribution of the amplitudes of traveling light waves with respect to the length of the cavity differs considerably from uniform distribution. The object of the study is a gas laser with high amplification of the active element. The singularities of the spectral line with $\lambda = 3.39 \mu$ and similar lines are taken into account. The statistical characteristics of the single-frequency mode are theoretically analyzed together with the frequency and amplitude characteristics for limiting cases of low and high frequencies. The gain in modulating voltages and in the maximum amplitudes of the alternating components as compared with external modulation is evaluated. Modulation of the coupling of a helium-neon laser with $\lambda = 3.39 \mu$ is experimentally realized. There

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USSR

BAGLIKOV, V. B., PARYGIN, V. N., Radiotekhnika i Elektronika, vol 16, No 11, Nov 71, pp 2144-2151

were no more than three longitudinal TEM_{00q} modes, and the side modes had little effect on the characteristics of single-frequency emission. The static, frequency (up to $\sim 2\Omega_i$) and amplitude (within the band of internal modulation) characteristics of coupling modulation are measured. The experimental data agree satisfactorily with the theoretical calculations. Four figures, bibliography of five titles.

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USSR

UDC 621.373.029.67:621.376

BAGLIKOV, V. B., and PARYGIN, V. N.

"Asynchronous Modulation of the Coupling of a Gas Laser"

Moscow, Radiotekhnika i Elektronika, Vol 16, No 8, Aug 71, pp 1411-1417

Abstract: A theoretical analysis is made of the characteristics of modulation of the coupling of low-gain single-frequency and multifrequency gas lasers as related to the nature of broadening of the spectral line of the working transition of the active medium, the excess over the emission threshold, and the form of the optical spectrum. The presence of low-gain frequencies in the spectrum leads to slight quantitative changes in modulation characteristics as compared with the case of single-frequency emission. In the case of modulation by a variable signal, the coupling modulation band is considerably broadened. When the operating point is appropriately selected, the frequency response of coupling modulation is uniform from zero to the frequency of internode beats. This type of modulation makes it possible to realize a gain in the slope of the amplitude characteristic, the maximum amplitude of the variable component of the output power, and the necessary voltage as compared with the case of external modulation. Coupling of a helium-neon laser with $\lambda = 0.633 \mu$ is experimentally modulated. The static, frequency, 1/2

USSR

BAGLIKOV, V. B., and PARYGIN, V. N., Radiotekhnika i Elektronika, Vol 16,
No 8, Aug 71, pp 1411-1417

and amplitude characteristics of the modulation are measured under three
different sets of conditions. The experimental data agree satisfactorily
with the proposed theory.

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USSR

BAGIROV, M. A., and ABASOV, S. A., et al., Physics Institute of the Azerbaydzhan Academy of Sciences

"Change in Mechanical Properties and Structure of Polystyrene Film Under Ultraviolet Radiation in Air"

Baku, Izvestiya Akademii Nauk Azerbaydzhanskoy SSR, Seriya Fiziko-Tekhnicheskikh i Matematicheskikh Nauk, Jan-Feb 73, pp 70-73

Abstract: The effect of ultraviolet radiation on the mechanical strength and thermomechanical properties of polystyrene film was investigated. At the same time, the change in the infrared absorption spectra was observed.

It was established that the changes in the elongation strain (above the second-order transition temperature) and the mechanical strength of polystyrene film under ultraviolet radiation are correlated with the degree of oxidation, according to the optical density of the carbonyl band.

The fact that the strain in the viscous-fluid state and the mechanical strength of polystyrene film are functions of the duration of the ultraviolet radiation is accounted for by the processes of photooxidative destruction and cross-linking of polymeric chains.

The article includes three figures. There are eight bibliographic references.

1/1

USSR

UDC: 621.791.06:620.181.5

KOVAL'CHUK, G. Z., YEREMETOV, A. M., and BAGNYUK, L. N., Institute of Ferrous Metallurgy

"Isothermal Decay of Austenite in Welded Specimens of St. 5sp and 35GS Steels"

Moscow, Izvestiya VUZ--Chernaya Metallurgiya, No. 8, 1971, pp 145-149

Abstract: For this study of the isothermal decay of austenite in the zone of the welding seam, small specimens of St. 5sp and 35GS steel measuring 10 X 5 X 4 mm cut from butt-welded samples were investigated. The isothermal decay of the supercooled austenite was realized by the tempered-microstructure method. The specimens were austenized for 20 minutes at a temperature of 850° C, and curves of the austenite decay were plotted for a large number of them from the data derived from the experiment. These curves are reproduced. Also reproduced are photomicrographs of the welding seam and the basic metal structure at various temperatures and durations of the welding process. It is found that the structural differences resulting from the chemical changes in the welding zone are minor, except for sections of the seam with high decarboxylation, with earlier separation of the ferrite in the decay of low-carbon austenite.

USSR

UDC [537.226+537.311.33]:[537+535]

BAGOCHYUNAYTE, R. I., POZHELA, YU. K., SKUCHAS, YU. P., SKUCHENE, A. L., and SHIMOLITE, YE. A.

"Effect of Intercrystalline Barriers on Physical Properties of CdTe Thin Polycrystalline Films"

V sb. Tonkiye plenki sovedineniy tellura s metallami podgrupp tsinka i galliya (Thin Films of Tellurium Compounds With Metals of Zinc and Gallium Subgroups -- Collection of Works), Vil'nyus, 1970, pp 69-90 (from RZh-Fizika, No 10, Oct 71, Abstract No 10YE691 by V. B. SANDOMIRSKIY)

Translation: The authors investigated static and dynamic current-voltage characteristics of CdTe polycrystalline films. Photoelectromotive forces were measured. It is believed that the results can be explained if a film is conceived of as a system of crystallites in contact, described by the model of an asymmetrical n-n junction with blocking band bending at the interface.

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USSR

UDC 541.138.3:546

BAGOTSHAYA, I. A., POTAPOVA, YE. A., Institute of Electrochemistry
Academy of Science, USSR, Moscow

"Study of the Effect of Electric Double Layer Structure on
Hydrogen Overvoltage on High Purity Liquid Gallium"

Moscow, Elektrokhimiya, Vol 7, No 12, Dec 71, pp 1849-1851

Abstract: Previous studies showed that electrochemical properties of gallium depend on its purity. Therefore, the conclusions reached in those studies had to be checked out on highly purified gallium--99.9998 percent pure. It was determined that the effect of pH and of the total concentration of electrolyte on the kinetics of hydrogen liberation is the same with gallium GL-000 as it was with GL-0 material: with increased pH and total concentration of the electrolyte the hydrogen overvoltage increases. Comparison of experimental and theoretical data showed that the change in η -potential with electrode potential has smaller effect on the kinetics of hydrogen evolution than expected from theoretical considerations; on gallium the η -potential changes with electrode potential to a lesser degree than expected from the Guy-1/1 Chapman theory.

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1/2 024 UNCLASSIFIED PROCESSING DATE--18SEP70
TITLE--HYDROGEN EVOLUTION FROM ALKALINE SOLUTIONS ON METALS OF HIGH
OVERVOLTAGE -U-
AUTHOR-(03)-FRUMKIN, A.N., KORSHUNOV, V.N., BAGOTSKAYA, I.A.
COUNTRY OF INFO--USSR
SOURCE--ELECTROCHIM. ACTA 1970, 15(2) 289-301
DATE PUBLISHED-----70
SUBJECT AREAS--MATERIALS
TOPIC TAGS--HYDROGEN, INDIUM, AMALGRAM, CURRENT DENSITY, CHEMICAL REACTION
MECHANISM, ELECTROCHEMISTRY, GALLIUM
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--1983/0279 STEP NO--UK/0000/70/015/002/0289/0301
CIRC ACCESSION NO--AP0053266
UNCLASSIFIED

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UNCLASSIFIED

PROCESSING DATE--13SEP70

CIRC ACCESSION NO--AP0053266

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. H EVOLUTION FROM ALK. SOLNS. ON HG AT PH IS LESS THAN 10 IS DUE TO H ION DISCHARGE AND AT PH IS GREATER THAN 10 TO A CHEM. INTERACTION OF THE INTERMEDIATELY FORMED AMALGAMS OF ALKALI METALS WITH WATER. NO WATER MOL. DISCHARGE WAS OBSERVED TO OCCUR AT AN APPRECIABLE RATE. ON THE CONTRARY, ON A GA ELECTRODE AT PH IS GREATER THAN 10, H EVOLUTION IS DUE ENTIRELY TO WATER MOL. DISCHARGE. INDIUM AMALGAMS ARE AN INTERMEDIATE CASE, SINCE H EVOLUTION AT LOW C.DS. FOLLOWS THE ELECTROCHEM. MECHANISM AND AT HIGH C.DS. THE CHEM. MECHANISM. THE DETN. OF THE DEPENDENCE OF H OVERVOLTAGE ON SOLN. COMPN. SHOWS THE EXISTENCE OF THE SPECIFIC ADSORPTION OF CS PRIME POSITIVE IONS, AS WELL AS OF CATIONS OF ALK. EARTH METALS ON GA AND IN AMALGAM SURFACES.

UNCLASSIFIED

1/2 020 UNCLASSIFIED PROCESSING DATE--30OCT70
TITLE--ADSORPTION OF THIUREA ON MOLTEN GALLIUM -U-
AUTHOR--(04)-BAGOTSKAYA, I.A., FATEYEV, S.A., GRIGORYEV, N.B., BARDINA,
N.G.
COUNTRY OF INFO--USSR
SOURCE--ELEKTRKHIMIYA, MAR. 1970, 6, (3), 369-372
DATE PUBLISHED-----70
SUBJECT AREAS--CHEMISTRY
TOPIC TAGS--ADSORPTION, THIUREA, GALLIUM, ELECTRODE POLARIZATION, SURFACE
ACTIVE AGENT, METAL PASSIVATION
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--2000/1988 STEP NO--UR/0364/70/006/003/0369/0372
CIRC ACCESSION NO--A70125577
UNCLASSIFIED

2/2 020

UNCLASSIFIED

PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0125577

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE ADSORPTION OF THIOUREA, CSINH SUB2) SUB2, ON MOLTEN GA WAS STUDIED BY A METHOD BASED ON MEASURING THE DIFFERENTIAL CAPACITY AT A GA ELECTRODE AND PLOTTING POLARIZATION CURVES. BOTH IN AN ACID AND IN A NEUTRAL SOLUTION THE POTENTIAL CORRESPONDING TO THE EVOLUTION OF H ON THE GA MOVED IN THE POSITIVE DIRECTION BY 0.3 V IN THE PRESENCE OF THIOUREA, ALTHOUGH THE SLOPE OF THE POLARIZATION CURVES REMAINED UNCHANGED. THESE RESULTS ARE INTERPRETED IN TERMS OF THE ADSORPTION OF THE ORTION IN SUCH SOLUTIONS. THUS INCREASING THE PRESSURE OF O OVER THE SOLUTION DISPLACED THE STATIONARY POTENTIAL IN THE POSITIVE DIRECTION AND REDUCED THE SELF DISSOLUTION CURRENT. FOR HIGH C.D. AND O CONCENTRATIONS INTENSIVE PASSIVATION TOOK PLACE; UNDER CONDITIONS OF SELF DISSOLUTION THE PASSIVATION WAS PARTIAL. THE PRESENCE OF SURFACE ACTIVE SUBSTANCES ALSO PLAYED A MAJOR ROLE IN PASSIVATION PROCESSES.

USSR

UDC 541.13

BAGOTSKIY, V. S. (Professor)

"New Electrochemical Power Energy Sources"

Moscow, Zhurnal Vsesoyuznogo himicheskogo bshchestva, Vol 16, No 6, 1971, pp 685-690

Abstract: A review is presented of research and development in fuel cell technology engineering dating back to the end of 19th century both in the USSR and abroad. Various types of electrochemical power sources, operating principles, designs, compositions and applications are discussed. Considerable attention is devoted to various liquid and gaseous fuel cell components for use as oxidizing agents such as pure oxygen, air oxygen, hydrogen-oxygen, etc. Extensive reference is made to foreign literature data by Bacon (1963) and new developments by the American firm "Pratt and Whitney" on hydrogen-oxygen fuel cells successfully operated on the "Apollo" space ships. The advantages and drawbacks of various catalysts including platinum, Raney nickel, skeleton silver and activated carbon (Union Carbide) are analyzed. Cells using hydrazine, natural gas, hydrocarbons, methanol and other liquid fuels are noted with regard to convenience of transportation. Metal-air cells for use in storage batteries are described. The

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- 24 -

• USSR •

BAGOTSKIY, V. S., Zhurnal Vsesoyuznogo Khimicheskogo obshchestva, Vol 16, No 6, 1971, pp 685-690

final stage of the review covers a new group of electrochemical power sources using alkaline metals as the negative electrodes and organic solvents (instead of water) as the electrolyte (to preclude violent reactions on dissolution). Sodium-sulfur storage batteries using a special modification of solid sodium aluminate as the electrolyte are representative examples of this group, which show promise to surpass the performance of silver-zinc batteries currently in use. (2 illustrations, 19 biblio. references)

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172 017 UNCLASSIFIED PROCESSING DATE--20NOV70
TITLE--EFFECT OF MOLECULAR STRUCTURE ON THE ADSORPTION AND
ELECTROOXIDATION OF ALIPHATIC ALCOHOLS -U-
AUTHOR--(05)--VASILYEV, YU.S., YANCHUK, B., NIKOLOV, I., BESKURCHVAINAYA,
S.S., BAGITSKIY, V.S.
COUNTRY OF INFO--USSR
SOURCE--ELEKTRIKHIMIYA 1970, 6(4), 597-601,
DATE PUBLISHED-----70
SUBJECT AREAS--CHEMISTRY
TOPIC TAGS--ADSORPTION, ALIPHATIC ALCOHOL, MOLECULAR STRUCTURE,
DEHYDRATION, ELECTROCHEMICAL EFFECT, OXIDATION
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAKE--3006/1293 STEP NO--UR/0364/70/005/004/0597/0601
CIRC ACCESSION NO--AP0134967
UNCLASSIFIED

2/2 017

UNCLASSIFIED

PROCESSING DATE--20NOV70

CIRC ACCESSION NO--AP0134957

ABSTRACT/EXTRACT--(U) CH-O- ABSTRACT. ME TO HEXYL ALIPHATIC ALCS. WERE STUDIED. THE ADSORPTION OF THESE ALCS. ON SMOOTH Pt AT LOW TEMP. (25DEGREES) IS RELATED TO A LOSS OF 2 H ATOMS LOCATED NEAR THE ALPHA,C. BRANCHING OF THE MOLS. OR THE PRESENCE OF CONSTITUENTS AT THE ALPHA,C LOWERS THE ADSORPTION. THE ADSORPTION AT LOWER TEMPS. RESULTS FROM DEHYDROGENATION AT THE ALPHA,C, THAT AT 50-80DEGREES FROM DEHYDROGENATION OF THE RADICALS OF THE MOL., AND THAT AT 90-100DEGREES BY VIRTUE OF C C BOND BREAKING. THE POLARIZATION CURVES OF ELECTROOXID. OF THE ALCS. SHOW THAT THE MAX. UNSTEADY STATE CURRENT IN ALL CASES CHANGED WITH THE ELECTRODE COVERAGE. GENERALLY, AS THE CHAIN OF THE ALC. LENGTHENED, THE RATE OF DEHYDROGENATION AS WELL AS THE RATE OF ELECTROOXID. DECLINED. FACILITY: INST. ELEKTROKHM., MOSCOW, USSR.

UNCLASSIFIED

1/2 020 UNCLASSIFIED PROCESSING DATE--02OCT70
TITLE--EFFECT OF SOLUTION PH ON THE ADSORPTION OF METHANOL ON AN IRIIDIUM
ELECTRODE -U-
AUTHOR-(03)-SEDOVA, S.S., VASILYEV, YU.B., BAGUTSKIY, V.S.
COUNTRY OF INFO--USSR
SOURCE--ELEKTROKIMIYA 1970, 6(2) 202-4
DATE PUBLISHED-----70
SUBJECT AREAS--CHEMISTRY
TOPIC TAGS--HYDROGEN ION CONCENTRATION, ADSORPTION, METHANOL, IRIIDIUM,
ELECTRODE, POTASSIUM COMPOUND, HYDROXIDE
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY PEEL/FRAME--1989/0458 STEP NO--UR/0364770/005/002/0102/004
CIRC ACCESSION NO--AP0107064
UNCLASSIFIED

2/2 020

UNCLASSIFIED

PROCESSING DATE--02OCT70

CIRC ACCESSION NO--AP0107064

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE ADSORPTION OF H AND ME-OH ON SMOOTH IR ELECTRODES IMMersed IN PHOSPHATE BUFFERED SOLNS. AT DIFFERENT PH VALUES AND IN N KOH WAS STUDIED AT 26DEGREES. THE FREUNDLICH ADSORPTION ISOTHERM OF H IN KOH WAS LINEAR FOR H PRESSURE P SUBH2 FROM 10 PRIME NEGATIVE 12 TO 1 ATM, THETA SUBH EQUALS K(P SUBH2 PRIME ONE HALF) PRIME 1-N, WHERE N EQUALS 4.3 TO 4.8. FOR ME-OH IN N KOH, THE THETA-CONCN. PLOT WAS ALSO LINEAR AND THE VLAUE OF N EQUALS 4.65. THE PHI (COVERAGE) WAS A MAX. AT 0.2V. THE EFFECT OF PH WAS SUCH THAT THE LOG THETA REACHED A MIN. AT PH SIMILAR TO 4 (AT PHI BETWEEN 0.4-0.5V) AND REACHED A MAX. AT PH SIMILAR TO 10. THE RATE OF ADSORPTION IN N KOH WAS LESS THAN THE RATE IN N H SUB2 SO SUB4. THESE DATA SHOWED THE SIMILAR EFFECT OF PH ON THE ADSORPTION OF H AND ME-OH.

UNCLASSIFIED

2/2 029

UNCLASSIFIED

PROCESSING DATE--18SEP70

CIRC ACCESSION NO--AP0104211

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE EVOLUTION OF H AND O IN N H SUB2 SO SUB4 SOLN. ON THE VARIOUS FACES OF A PT MONOCRYSTAL AND ON POLYCRYSTALS WAS STUDIED. THE EVOLUTION OF H WAS SIMILAR ON THE VARIOUS FACES OF THE MONO AND POLYCRYSTAL, HOWEVER, THE RATE OF THE PROCESS DECREASED IN THE FOLLOWING ORDER: FACE (111) IS GREATER THAN POLYCRYSTAL IS GREATER THAN FACE (100). EXCHANGE CURRENT COMPUTED PER 1 CM PRIME2 OF ACTUAL ELECTRODE SURFACE ALSO DECREASES IN THE SAME ORDER. IN GOING FROM FACE (111) TO FACE (100) THE MAGNITUDE OF EXCHANGE CURRENT CHANGES BY ALMOST 1 ORDER. THE ACTUAL ENERGY OF ACTIVATION REMAINED PRACTICALLY UNCHANGED BY CHANGING CRYSTALLOGRAPHIC ORIENTATION. THE EVOLUTION OF O DID NOT CHANGE BY CHANGING THE ORIENTATION OF THE CRYSTAL, HOWEVER THE RATE OF EVOLUTION AND THE EXCHANGE CURRENT DECREASED IN THE SAME SEQUENCE AS DID H. BY GOING FROM FACE (111) TO FACE (100) THE CURRENT DROPS FOR O BY A FACTOR OF 5. THUS, CATHODIC EVOLUTION OF H AND ANODIC EVOLUTION OF O DROPS CONSIDERABLY WHEN GOING FROM A TIGHTLY PACKED CRYSTAL FACE TO A FACE PACKED LESS TIGHTLY. A PT POLYCRYSTAL OCCUPIES A POSITION BETWEEN THESE 2 FACES.

UNCLASSIFIED

2/2 019 UNCLASSIFIED PROCESSING DATE--13NOV70
 CIRC ACCESSION NO--AP0115750
 ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE STUDIES WERE CARRIED OUT IN 10
 PRIME NEGATIVE7 TO IN KCL AND KI SOLNS. WITH N H SUB2 SO SUB4 AS
 AUXILIARY ELECTROLYTE. THE EXTENT OF ANION ADSORPTION ON SMOOTH PT WAS
 DETD. FROM ITS EFFECT ON THE ADSORPTION OF H AND O. AT 0.1 V THE MAX.
 ADSORPTION OF I PRIME NEGATIVE WAS REACHED AT A CONCN. OF 10 PRIME
 NEGATIVE4 N. UNDER THESE CONDITIONS I OCCUPIED IS SIMILIAR TO 90PERCENT
 OF THE SPOT ON THE SMOOTH PT CAPABLE OF ADSORBING H. THIS WOULD
 CORRESPOND TO 1.9 TIMES 10 PRIME NEGATIVE9 G-ION-CM PRIME2 OF TOTAL
 SURFACE. FOR CL THE MAX. WAS REACHED AT GREATER THAN 0.3 V AND A CL
 PRIME NEGATIVE CONCN. IS GREATER THAN 10 PRIME NEGATIVE2 N. THE HIGHEST
 ADSORPTION WAS OBTAINED AT 0.7 V IN 0.1N KCL UNDER WHICH CONDITIONS IT
 WAS 1.6 TIMES 10 PRIME NEGATIVE9 G-ION-CM PRIME2. THE ADSORPTION
 ISOTHERM FOR H SUB3 PO SUB4 WAS HARD TO OBTAIN BECAUSE OF THE CHANGES OF
 PH WITH CHANGES OF CONCN. OF THE ACID AND BECAUSE OF THE COMPETITION IN
 THE ADSORPTION OF H SUB2 PO SUB4 PRIME NEGATIVE AND HSO SUB4 PRIME
 NEGATIVE. THE RATE OF ADSORPTION OF I PRIME NEGATIVE AT 0.4 V. WAS
 4.69 THETA PER SEC., FOR CL PRIME NEGATIVE AT 0.6 V. IT WAS 3.2 TIMES 10
 PRIME3 THETA PER SEC. AND FOR H SUB2 PO SUB4 PRIME NEGATIVE AT 0.7 V.
 WAS 6.7 TIMES 10 PRIME NEGATIVE3 THETA PER SEC. FACILITY: INST.
 ELEKTROKHM., MOSCOW, USSR.

UNCLASSIFIED

1/2 018 UNCLASSIFIED PROCESSING DATE--30OCT70
TITLE--RATE OF HYDROGEN CHEMISORPTION ON PLATINUM STUDIED WITH A RING DISK
ELECTRODE -U-
AUTHOR-(03)-HONZ, J., VASILYEV, YU.B., BAGOTSKIY, V.S.

COUNTRY OF INFO--USSR

SOURCE--ELEKTROKHIMIYA 1970, 6(3), 325-8

DATE PUBLISHED-----70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--PLATINUM ELECTRODE, IONIZATION CONSTANT, HYDROGEN, ADSORPTION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1998/1134

STEP NO--UR/0364/70/006/003/0325/0328

CIRC ACCESSION NO--AP0121693

UNCLASSIFIED

2/2 018

UNCLASSIFIED

PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0121693

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. TYPICAL CURVES FOR RING POTENTIAL OR LOG PARTIAL H PRESSURE IN THE LIQ. JET, AGAINST LOG C.D. ON THE DISK AT CONST. SPEED OF ROTATION, SHOW A LINEAR RELATION OVER A WIDE RANGE. ADSORPTION RATES FOR CONST. H PRESSURE BUT DIFFERENT SPEEDS OF ELECTRODE ROTATION ARE PRACTICALLY IDENTICAL, POINTING TO THE ABSENCE OF DIFFUSION BOUNDARIES. FOR A POTENTIAL OF 0.05 V, THE ADSORPTION RATE IS SIMILAR TO 0.75 SEC PRIME NEGATIVE 1, CORRESPONDING TO A C.D. PER UNIT PT SURFACE OF 0.16 MA-CM PRIME2, BEING MUCH LOWER THAN THE IONIZATION RATE OF H FOR THE SAME POTENTIAL, MEASURED UNDER STATIONARY CONDITIONS ON A SMOOTH PT. ELECTRODE (2-4 MA-CM PRIME2). FACILITY: POLYAROG. INST. IM. GEIROVSKOGO, PRAGUE, CZECH.

UNCLASSIFIED

1/2 023

UNCLASSIFIED

PROCESSING DATE—30OCT71

TITLE—ADSORPTION AND ELECTROOXIDATION OF METHANOL ON DIFFERENT FACES OF PLATINUM SINGLE CRYSTAL -U-

AUTHOR—(03)—VASILYEV, YU.B., PYSHNOGRAYEVA, I.I., BAGOTSKIY, V.S.

COUNTRY OF INFO—USSR

SOURCE—ELEKTROKHIMIYA 1970, 6(3), 433-6

DATE PUBLISHED—70

SUBJECT AREAS—CHEMISTRY

TOPIC TAGS—ADSORPTION, ELECTROLYTIC OXIDATION, METHANOL, PLATINUM, SINGLE CRYSTAL

CONTROL MARKING—NO RESTRICTIONS

DOCUMENT CLASS—UNCLASSIFIED

PROXY REEL/FRAE—2000/0651

STEP NO—UR/0364/70/006/003/0433/0436

CIRC ACCESSION NO—AP0124323

UNCLASSIFIED

2/2 023

UNCLASSIFIED

PROCESSING DATE--30OCT7

CIRC ACCESSION NO--AP0124323

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. TESTS WERE CONDUCTED WITH MEQH
SOLKS IN N H SUB2 SO SUB4 FOR VARIOUS CRYSTALLOGRAPHIC ORIENTATIONS.
EXPTL. DATA REVEALED THAT WITH RESPECT TO MEQH ADSORPTION, DEHYDRATION,
AND OXIDN. REACTIONS, THE ELECTROCATALYTIC ACTIVITY OF A PT ATOM AT THE
FACE OF THE SINGLE CRYSTAL WITH THE DENSEST PACKING IS SOMEWHAT HIGHER,
PROBABLY BEING INFLUENCED BY ITS NEIGHBORS, THAN FOR THE OTHER FACES.
THE BOUNDARIES OF THE GRAINS AND THE ANGLES AND FACES OF PARTICULAR
CRYSTALS ON THE POLYCRYST. SURFACE DO NOT HAVE ANY EFFECT ON CATALYTIC
ACTIVITY. FACILITY: INST. ELEKTROKHM., MOSCOW, USSR.

UNCLASSIFIED

Semiconductor Technology

USSR

UDC 541.183.02 + 539.232

BAGRATISHVILI, G. D., GOGESHVILI, M. D., DZHANELIDZE, R. B.,
CHAGELISHVILI, V. A., and KHARATI, R. G.

"Structure and Properties of Germanium Oxide Films"

Moscow, Doklady Akademii Nauk SSSR, Vol 196, No 2, 1971, pp 342-344

Abstract: The authors undertook to obtain germanium oxide films during the oxidation of single-crystal germanium with gaseous oxygen and to compare them with GeO_2 films obtained by other methods, as well as to study their structure and properties. Specimens of GeO_2 films were obtained by the following methods: 1) pyrolytic decomposition of tetraethoxygermanium, 2) oxidation of Ge in an oxygen stream and 3) oxidation of germanium after gas etching in O_2 in an oxygen atmosphere in a closed system. The resultant GeO_2 films were studied by means of IR spectra and by electron

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USSR

BAGRATISHVILI, G. D., et al., Doklady Akademii Nauk SSSR, Vol 196, No 2, 1971, pp 342-344

diffraction. It was found that different crystallographic modifications of GeO_2 are obtained according to the experimental conditions. An amorphous modification of GeO_2 results from decomposition of tetraethoxygermanium, hexagonal from oxidation in an oxygen stream, tetragonal from oxidation in a closed system with preliminary gas etching with oxygen. The resultant crystallographic modifications are characterized by different work function and resistivity values, with these parameters increasing as follows: amorphous < hexagonal < tetragonal, coinciding with the direction of material density increase. The effect of water vapors at various temperatures on the structure and properties of GeO_2 was studied to find whether the transition of different modifications from one to the other is possible. IR spectra indicate that with the treatment

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BAGRATISHVILI, G. D., et al., Doklady Akademii Nauk SSSR, Vol 196, No 2, 1971, pp 342-344

of amorphous GeO_2 in a stream of $\text{H}_2\text{O} + \text{Ar}$ the transition to a hexagonal modification begins at comparatively low temperatures. Treatment of tetragonal GeO_2 in a stream of $\text{H}_2\text{O} + \text{Ar}$ results in its irreversible transition to a hexagonal modification.

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USSR

BAGREYEVA, M.

"Ultrasound Helps the Physician"

Moscow, Vechernyaya Moskva, 6 Jun 70, p 2

Abstract: Ultra sound is the latest method of treating complicated fractures. Prof. V. A. Polyakov, head of the chair of traumatology of the Central Institute for the Advanced Training of Physicians performed the following operation at the Moscow City Clinic No 50. The patient was a woman with a double fracture of the kneecap; the fractured bone was exposed and the fragments pulled together by traditional surgical methods; ultrasound was then applied by Prof Polyakov along the fracture edges with a special ultrasound apparatus, fusing the bone in 30 seconds. Ultrasound speeds up operations and healing processes and permits the elimination of metal plates and other devices used to strengthen bones in complicated fractures. It also makes it possible to replace missing bone pieces.

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1/2 027

UNCLASSIFIED

PROCESSING DATE--23OCT70

TITLE--NEW ANTIDEPRESSANT AZAPHENE -U-

AUTHOR-(03)-POLEZHAYEVA, A.I., VERTOGRADOVA, O.P., BAGREYEVA, M.R.

COUNTRY OF INFO--USSR

SOURCE--KHIM.--FARM. ZH. 1970, 4(2), 59-61

DATE PUBLISHED-----70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--PSYCHOTHERAPEUTIC DRUG, TOXICITY, CHOLINOLYTIC, QUANTITATIVE ANALYSIS, DRUG TESTING

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1997/0048

STEP NO--UR/0450/70/004/002/0059/0061

CIRC ACCESSION NO--AP0119044

UNCLASSIFIED

2/2 027

UNCLASSIFIED

PROCESSING DATE--23OCT70

CIRC ACCESSION NO--AP0119044

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. PHARMACOL., CLIN., AND CHEM. CHARACTERISTICS OF THE TITLE COMPD. (DI-HCL SALT OF 2, (4, METHYL, 1, PIPERAZINYL), 10, METHYL, 3, 4, DIAZAPHENOXAZINE) (I), ARE GIVEN. I IS A LOW TOXIC COMPD., LD SUB50 VALUES FOR MICE BEING 64, 390, AND 700 MG-KG (I.V., S.C., AND ORAL, RESP.), AND PHARMACOL. EFFECTS RESEMBLING THOSE OF TRICYCLIC ANTIDEPRESSANTS. I DID NOT SHOW CHOLINOLYTIC ACTIVITY AND WAS LESS TOXIC THAN IMIZINE. IN CLINICAL TESTS, INITIAL DOSES WERE 25-50 MG-24 HR, MEDIUM 150-200, AND MAX. 500-600 MG-24 HR. A THERAPEUTIC EFFECT WAS OBSD. AFTER 1 WEEK AND INVOLVED TIMID ANALEPTIC AND SEDATIVE ACTION. I GAVE COLOR REACTIONS WITH CITRIC ACID IN AC SUB2 O (VIOLET COLOR WHEN HEATED), AND FORMED AN ORANGE PPT. WITH TROPAEOLIN 000-P. THE FOLLOWING PROCEDURE WAS RECOMMENDED FOR QUANT. DETN. OF I: DISSOLVE 0.1-0.15-G SAMPLE IN 1-1.5 ML HCL SUB2 H, ADD 30 ML AC SUB2 O, AND TITRATE WITH 0.1M HCL O SUB4 USING CRYSTAL VIOLET AS INDICATOR; 1 ML 0.1M HCL O SUB4 CORRESPONDS 0.01851 G I. FACILITY: VSES. NAUCH.-ISSLED. KHIM.-FARM. INST. IM. ORDZHONIKIDZE, MOSCOW, USSR.

UNCLASSIFIED

USSR

UDC 681.3.001.518.5

LYAPUNOV, A.A., BAGRINOVSKAYA, G.P.

"Some Problems in the Automation of Programming"

Novosibirsk, Nauka Press, 1970, 166 pp, ill., 73 kop. (from RZh-Avtomatika, Telemekhanika i Vychislitel'naya Tekhnika, No 2, Feb 71, Abstract No 2B66K)

Translation: This work contains an investigation of papers pertaining to certain experimental programming problems and intended for comparatively narrow sets of problems but problems which are quite complex with respect to their logical structure: machine translation, elementary analytical calculations, simplification algorithms for disjunctive normal forms of boolean functions, text analysis, and so on. The collection includes 8 papers.

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USSR

UDC: 51.330.115(02)

BAGRINOVSKIY, A. K., BERLYAND, Ye. L. (science editors)

"Mathematical Analysis of Economic Models. Part I"

Matematicheskiy analiz ekonomicheskikh modeley. Ch. I. AN SSSR. Sib. otd.
In-t ekon. i organiz. prom. proiz-va (cf. English above. Academy of Sci-
ences of the USSR. Siberian Department. Institute of the Economics and
Organization of Industrial Production), Novosibirsk, 1971, 200 pp, ill.
76 k. (from RZh-Kibernetika, No 12, Dec 71, Abstract No 12V840 K)

Translation: To be abstracted by articles.

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USSR

AGANBEGYAN, A. G., BAGRINOVSKIY, K. A.

"Agreement Between Global and Local Planning Problems"

Probl. Primeneniya Makroekon. Modeley v Planir. [Problems of Application of Macroeconomic Models in Planning -- Collection of Works], Moscow, Progress Press, 1972, pp 53-68 (Translated from Referativnyy Zhurnal Kibernetika, No 4, 1973, Abstract No 4V575, by the authors).

Translation: A mathematical economics approach to the proof of correctness of individual statements concerning combination of the principle of centralized administration of the economy with initiative of local branches of the economy is studied. First, a formal statement of the problem is studied and a theorem is proven, which the authors call the theorem of localization. The economic sense of the results produced is then interpreted.

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USSR

UDC: 51

BAGRINOVSKIY, K. A., LEVITSKIY, Ye. M., MEN'SHIKOV, S. M.

"Intersectoral Dynamic Models of the United States Economy"

V sb. Probl. postroyeniya i ispol'z. narodnokhoz. modeley (Problems of Constructing and Utilizing National Economic Models--collection of works), Novosibirsk, 1971, pp 3-141 (from RZh-Kibernetika, No 5, May 72, Abstract No 5V435)

[No abstract]

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USSR

UDC: 512.25/.26+519.3:330.115

BAGRINOVSKIY, K. A., BERLYAND, Ye. L.

"On One Approximate Method of Solving Multiple-Extremum Problems"

V sb. Mat. metody resheniya ekon. zadach (Mathematical Methods of Solving Economic Problems--collection of works), Novosibirsk, "Nauka", 1971, pp 42-62 (from RZh-Kibernetika, No 9, Sep 71, Abstract No 9V494)

[No abstract]

USSR

UDC: 51:330.115

BAGRINOVSKIY, K. A.

"Formulation of Localized Problems and Distribution of Resources"

V sb. Mat. metody resheniya ekon. zadach (Mathematical Methods of Solving Economic Problems--collection of works), Novosibirsk, "Nauka", 1971, pp 5-41 (from RZh-Kibernetika, No 9, Sep 71, Abstract No 9V510)

Translation: In a previous paper (RZh-Mat, 1969, 12V458) it was shown that localized optimization to obtain matched states of all subsystems is impossible, generally speaking, for linear models. The problem arises of formulating conditions which would be sufficient for the formation of localized problems of optimization which guarantee that the composition of their solutions will coincide with the planned state for the entire system.

In this paper, a method is indicated for formulating such localized problems based on a method of distributing the resources common to the entire system among the individual subsystems. This type of distribution of resources is called equilibrium distribution. Sometimes, information on the solution of localized problems (for instance, optimum estimates

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USSR

BAGRINOVSKIY, K. A., Mat. metody resheniya ekon. zadach, Novosibirsk, "Nauka", 1971, pp 5-41

of limitations) may be used to check whether some arbitrary distribution of resources is an equilibrium distribution. In principle, these results permit determination of computational procedures for achieving the optimum state of the entire system. However, the difficulties of constructing specific procedures of this kind are extremely great, if formal considerations alone are taken as the basis. From the author's article.

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USSR

UDC 51.330.115

BAGRINOVSKIY, K. A.

"Agreement of Statistical Models of Various Types"

Mat. Vopr. Formir. Ekon. Modeley [Mathematical Problems of Formation of Economic Models -- Collection of Works], Novosibirsk, 1970, pp 3-26 (Translated from Referativnyy Zhurnal Kibernetika, No. 4, April, 1971, Abstract No. 4 V586).

No Abstract.

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UDC 51.330.115

USSR

BAGRINOVSKIY, K. A., BAKHTIN, A. Ye., BERLYAND, Ye. L.

"Algorithm for Production of Global Optimal in Economic System with Two Levels of Planning"

Mat. Vopr. Formir. Ekon. Modeley [Mathematical Problems of Formation of Economic Models -- Collection of Works], Novosibirsk, 1970, pp 27-54 (Translated from Referativnyy Zhurnal Kibernetika, No. 4, April, 1971, Abstract No. 4 V587).

No Abstract.

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1/2 011 UNCLASSIFIED PROCESSING DATE--02 OCT 70
TITLE--NEW MACHINE FOR PRODUCING RUBBER CEMENT -U-
AUTHOR--(05)-KURINNYI, A.YE., KAVANIN, B.G., KASHKOVSKIY, S.S., BAGINTSEV,
I.I., BELIYUKOV, A.V.
COUNTRY OF INFO--USSR
SOURCE--KHIM. NEFT. MASHINOSTR. 1970, (2) 42-3
DATE PUBLISHED-----70

SUBJECT AREAS--MATERIALS, MECH., IND., CIVIL AND MARINE ENGR

TOPIC TAGS--RUBBER ADHESIVE, RUBBER WORKING MACHINERY, MATERIAL MIXING

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY FILE/FRAME--1992/1505

STEP NO--UR/0314/70/000/002/0042/0043

CINC ACCESSION NO--AP0112499

UNCLASSIFIED

2/2 011

UNCLASSIFIED

PROCESSING DATE--02OCT70

CIRC ACCESSION NO--AP0112499

ABSTRACT/EXTRACT--(U) GP-U- ABSTRACT. A NOVEL MIXING APP. WAS DEVELOPED FOR THE PREPN. OF RUBBER CEMENT FROM RUBBER MIXT. NO 109 DISSOLVED IN GASOLINE. A CROSS SECTIONAL DIAGRAM OF THE APP. AND ITS MODE OF OPERATION ARE PRESENTED. THE NEW APP. REDUCED THE PREPN. TIME FROM 3-6 HR TO 40-60 MIN.

UNCLASSIFIED

1/2 007 UNCLASSIFIED PROCESSING DATE--30OCT70
TITLE--METHYLATION OF ADAMANTANE -U-
AUTHOR-(03)-BAGRIY, YE.I., FRID, T.YU., SANIN, P.I.
COUNTRY OF INFO--USSR *B*
SOURCE--IZV. AKAD. NAUK SSSR, SER. KHIM. 1970, (2), 498
DATE PUBLISHED-----70

SUBJECT AREAS--CHEMISTRY
TOPIC TAGS--ADAMANTANE, METHYLATION, ALKANE, ALUMINUM CHLORIDE, ALUMINUM
BROMIDE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--1997/0834 STEP NO--UR/0062/70/000/002/0498/0498

CIRC ACCESSION NO--AP0119738
UNCLASSIFIED

2/2 007

UNCLASSIFIED

PROCESSING DATE--30JCT70

CIRC ACCESSION NO--AP0119738

ABSTRACT/EXTRACT--(U) GP-C- ABSTRACT. TREATING ADAMANTANE IN NONANE OR 2,3,5-TRIMETHYLHEXANE WITH ALCL SUB3 OR ALBR SUB3 IN MOLAR RATIOS OF 1:3:1.5, RESP., 30 HR AT 60DEGREES WITH ALCL SUB3, OR 2.5 HR AT 160DEGREES WITH ALBR SUB3, GAVE A VARIETY OF ALKYLATES, RESULTING FROM METHYLATION BY THE ALKANES. WITH ALCL SUB3 THE FOLLOWING WERE FORMED: 1,3-DIMETHYLADAMANTANE 5PERCENT, 1,3,5-TRI-ME ANALOG 32PERCENT, 1,3,5,7-TETRA-ME ANALOG 15PERCENT, AND 48PERCENT UNIDENTIFIED PRODUCTS; WITH ALBR SUB3 THE PRODUCTS WERE 33PERCENT STARTING MATERIAL, 23PERCENT 1-METHYLADAMANTANE, 15PERCENT 1,3-DI-ME ANALOG, 20PERCENT 1,3,5-TRI-ME ANALOG, 7PERCENT 1,3,5,7-TETRA-ME ANALOG, AND 2PERCENT UNIDENTIFIED MATERIALS. FACILITY: INST. NEFTEKHIM. SIN. IM. TOPCHIEVA, MOSCOW, USSR.

UNCLASSIFIED

USSR

UDC 547.26'118

MINGALYEVA, K. S., RAZUMOVA, N. A., PETROV, A. A., YEVTEKHOV, Zh. I., and
BAGROV, F. V., Leningrad Technological Institute Ivan Lomovet

"Dipole Moments of Derivatives of Trivalent Phosphorus Which Contain a
Dioxaphospholane Ring"

Leningrad, Zhurnal Obshchey Khimii, Vol 41, No 11, Nov 1971, pp 2,431-2,434

Abstract: In trivalent phosphorus compounds, hybridization of the phosphorus atom varies readily in response to change in the type of substituent, and thanks to this the phosphorus may exhibit bifilarity. However, there is very little published information on variation in the dipole moments of compounds containing trivalent phosphorus. The present study, based on the dipole moment method, is intended to show the mutual effect of atoms in compounds containing dioxaphospholane rings. Data of electrographic research on molecules of 2-chloro-1,3,2-dioxaphospholane and triethyl phosphite were used to compute dipole moments. The group moment of the dioxaphospholane cycle was estimated from M. J. Aronow's data. Moments of the phosphorus-halogen bond were determined from the dipole moments of the corresponding phosphorus trihalides. Laboratory measurements were made using dilute solutions in benzene at 20 ± 0.05°. All experimental and calculated data are included in the paper. It is concluded that increase in the electron-acceptor capability of the substituent leads to a decrease in the dipole moment.

USSR

UDC 547.341

BAGROV, F. V., and RAZUMOVA, N. A., Leningrad Technological Institute imeni
Lensovet

"Phosphorus-Containing Heterocycles: Glycol- and Catecholphenylphospholines"

Leningrad, Zhurnal Obshchey Khimii, Vol XL, No 12, Dec 70, pp 2565-2570

Abstract: This is a continuation of an earlier study of the condensation of the ethyleneglycol and pyrocatechol esters of phenylphosphonous acid with butadiene.

It was found that the condensation of the catechol ester of phenylphosphonous acid with dienes proceeds considerably more rapidly than that of the glycol esters of phenylphosphonous acid, owing to the greater electrophilicity of the phosphorus atom in catechol derivatives. The dienes, as regards the rate of condensation with the catechol and glycol esters of phenylphosphonous acid, can be arranged in the following descending order: isoprene, butadiene, piperylene, chloroprene. Finally, in condensation with glycol and catechol esters of phenylphosphonous acid, steric factors are important.

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USSR

UDC 547.341

BAGROV, F. V., RAZUMOVA, N. A., and PETROV, A. A.

"Condensation of the Glycol and Catechol Esters of Aryl Phosphinous Acids With 1,3-Dienes"

Leningrad, Zhurnal Obshchey Khimii, Vol 42(104), Vyp 4, 1972, pp 792-797

Abstract: The condensation of the catechol esters of p-dimethylbenzil (I), p-chlorophenyl (II), and p-dimethylaminophenylphosphorus acid (III), the ethyl glycol esters of compound I(IV), and p-(chlorophenyl) phosphorous acid (V) with butadiene and isoprene groups was used to study the influence of trivalent phosphorous groups on the rate and mechanism of the condensation. In every case the condensation went via a pentacovalent intermediate. The vinyl group reacted with the catechol esters of phenylphosphorous acid twice as fast as with I or II; it reacted with III only under vigorous conditions (180°C). The reactions of ethyl glycols showed the same pattern. NMR, IR, and other techniques were used to examine intermediates and products. Tables give the constants from the former and the theoretical and actual elemental composition of the products.

1/1

- 31 -

Graphite

USSR

UDC 661.006.2:543.872

ZAKHAROV, B. A., BAGROV, G. N., and VOSKOBOYNIKOVA, G. S.

"Effect of Certain Salts on the Failure of Graphite at 900°C in Air"

Moscow, Neorganicheskiye Materialy, Vol 10, No 1, Jan 74, pp 157-158

Abstract: Data are presented which characterize the effect of certain inorganic substances and compounds on the failure of synthetic graphite in the course of one hour at 900°C, created by thermal shock. Large losses due to burning (up to 50%) are typical for graphite under these conditions. Consequently, the failure of graphite (grade VG-OSCh) and the effect of the chosen inorganic substances were characterized by the distribution of mass according to particles of varying size after heat treatment. Soaking graphite for one hour at 900°C in air causes a breakdown of the graphite particles by 25% and the appearance of new particles measuring 630 (15%), 400 (4%), 250 (1%), and 160 microns (5%). Graphite saturated with phosphoric acid had the same amount of breakdown. Application of haloids (potassium chloride and bromide and ammonium chloride) sequentially lowered the breakdown of graphite from 25 down to 11-5%. Saturation with calcium acetate completely eliminated the breakdown of graphite;

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USSR

ZAKHAROV, B. A., et al., Neorganicheskiye Materialy, Vol 10, No 1, Jan 74,
pp 157-158

after heat treatment only particles of the initial size of 800 microns were present. Fourteen inorganic substances were used in this study and a table is presented which shows the percentage of these used along with the particle sizes of graphite resulting from saturation with these substances. One table.

2/2

- 22 -

Semiconductors and Transistors

USSR

UDC 621.382.2.029.6.001.5

ARANDAR', V. N., PROKHOROV, E. D., BAGROV, G. V.

"Investigating the Characteristics of the UHF Gunn Diode"

Moscow, Radiotekhnika i elektronika, No 10, 1970, pp 2150-2155

Abstract: This article describes complex experiments on Gunn diodes operating in the 3-cm wavelength range. The purpose of the work was to explain the effect of the various parameters of the diode material (GaAs) on the dynamic volt-ampere characteristic of the device, to explain the connection between that characteristic and the volt-watt characteristic and efficiency of the oscillators, and to find the optimal parameters of the diode material. The paper gives the form in which the volt-ampere characteristic was experimentally determined, how the volt-ampere characteristic depends on n_0 , the carrier concentration, or on the product n_0L , what the correspondence is between the volt-watt characteristic and the efficiency of the diodes on the one hand and the dynamic volt-ampere characteristics on the other, and how the useful power and efficiency of the diode depends on n_0 and n_0L . Details of the preparation of the diodes, the equipment involved in the experiments, and the experimental method are given.

1/1

Probability and Statistics

USSR

UDC 519.2:550.3

BAGROV, N. A.

"Transformation and Selection of Predictors in Correlational Analysis"

Tr. Gidrometeorol. n.-i. tsentr SSSR (Transactions of the hydro-meteorological Scientific Research Center of the USSR), No 64, 1970, pp 3-23 (from Referativnyy Zhurnal -- Matematika, No 6, June 71, Abstract No 6V209, by A. Zaslavskiy)

Translation: This is a review of methods in the orthogonalization of random variables and the use of these methods in solving problems of correlational analysis. A relationship between methods of orthogonalization and methods of matrix inversion is noted. Problems of selecting, from a given set of variables, the most informative subset of these variables are examined.

1/1

Electricity & Magnetism

USSR

UDC 530.145

BAGROV, V. G., BOZRIKOV, P. V., GITMAN, D. M., LAVROV, M. M.

"Electron in the Field of a Plane, Quantized, Monochromatic Electromagnetic Wave"

Tomsk, Izvestiya Vysshikh Uchebnykh Zavedeniy -- Fizika, No 8, 1973, pp 55-58

Abstract: The exact solution of the Dirac equation was obtained for an electron moving in a field of a quantized, monochromatic, plane electromagnetic wave of arbitrary polarization. The investigation of the arbitrary polarization of the wave leads to nontrivial physical consequences. The solution was found by the method of canonical transformation of the generation and destruction operators proposed by Bogolyubov and Tyablikov [ZhETF, No 19, 256, 1949]. In the special case of linear polarization the results obtained in this article are identical with the results of I. Berson [ZhETF, No 56, 1627, 1969], who demonstrated that the problem of movement of an electron in a quantized wave field can be solved exactly if it is restricted to the case of a monochromatic, linearly polarized wave. Volkov's solution [D. M. Volkov, Zs. Phys., Vol 94, 250, 1935] can be obtained from the indicated solution by determining the coherent state and subsequent transition to the limit as $V \rightarrow \infty$ (V is the normalization volume).

1/1

USSR

UDC 538.30

BAGROV, V. G., BORDOVITSYN, V. A., and KOPYTCOV, G. F.

"Radiation Indicatrix of an Arbitrarily Moving Charge"

Tomsk, Izvestiya VUZ--Fizika, No 6, 1972, pp 86-91

Abstract: Noting that the most important characteristic of radiation is the full power of its instantaneous output, this paper theoretically investigates the angular distribution of the radiation power without making any particular assumptions regarding the nature of the moving charge producing it. For this investigation a point charge of specified magnitude moving along a specified trajectory and having specified velocity and acceleration values is considered. Although this problem has been repeatedly investigated, the results of such investigations related to particular cases of charge motion and did not dwell on the difference between the power and the intensity of the radiation. These defects are remedied in the present paper. The authors are associated with the S. M. Kirov Polytechnical Institute at Tomsk.

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- 100 -

USSR

UDC 539.1.01

BAGROV, V. G., BORDOVITSYN, V. A., KOPYTOV, G. F., Tomsk Polytechnical
Institute imeni S. M. Kirov

"On the Wave Zone of Radiation"

Tomsk, Izvestiya Vysshikh Uchebnykh Zavedeniy, Fizika, No. 3, 1972, pp 30-33

Abstract: A criterion for the formation of a wave zone of radiation of an arbitrarily moving charge is discussed. It is noted that the notion of a wave zone plays a fundamental role in the theory of charge radiation but that a strict criterion for the formation of a wave zone did not exist for a long time; and the problem was discussed only for the particular case of radiation arising in the motion of a charge in a circle (synchrotron radiation). The instantaneous angular distribution of the radiation power of a charge is discussed in order to investigate in detail the appearance of a wave zone of radiation at a given distance from the charge. It is shown that the criterion for the formation of a wave zone in the general case of an arbitrarily moving ultrarelativistic charge is not different from the corresponding criterion for synchrotron radiation. It is noted that this fact is not unexpected and agrees with the conclusions of many authors relative to the general laws of radiation of ultrarelativistic charges.

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USSR

BAGROV, V. G., et al, Izvestiya Vysshikh Uchebnykh Zavedeniy, Fizika,
- No. 3, 1972, pp 30-33

The integral criterion for any velocities coincides exactly with the
angular criterion in the particular case of a hyperbolically moving charge.

2/2

- 52 -

USSR

UDC: 539.1.01

BAGROV, V. G., KLIMENKO, YU. I., and PAVLOVA, O. S. (Moscow State University imeni
~~M. V. Lomonosova~~)

"Stimulated Emission of Neutral Fermi Particles Moving in a Plane Wave"

Tomsk, Izvestiya Vysshikh Uchebnykh Zavedeniy Fizika, No 8, 1970, pp 50-53

Abstract: The authors study the stimulated emission of neutral Fermi particles with an anomalous magnetic moment moving in a powerful electromagnetic wave under the effect of a second electromagnetic wave of lower intensity. It is shown that this type of process can result in a preferred spin orientation of a particle. The authors express thanks to Professor I. M. Ternov for his assistance. Original article: six formulas and two bibliographic entries.

1/1

USSR

B

BAGROV, V. G.; SOKOLOV, A. A.; TERNOV, I. M. (Moscow State University)

"Quantum Theory of Electron Motion in a Cyclic Resonance Accelerator"

Tomsk, Izvestiya Vysshikh Uchebnykh Zavedeniy: Fizika; April 1970, pp 12-22

ABSTRACT: The Klein-Gordon equation is used in the study of the motion of a relativistic electron in a focussing, constant magnetic field in the presence of a still higher-frequency eddy electromagnetic field compensating the radiation energy loss. The solutions obtained can find application in the theory of electron storage rings, where quantum fluctuations are especially noticeable.

The article includes 54 equations. There are 10 bibliographic references.

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1/2 019 UNCLASSIFIED PROCESSING DATE--13NOV70
TITLE--QUANTUM THEORY OF ELECTRON MOTION IN A CYCLIC RESONANCE ACCELEKATOR
-U-
AUTHOR--(03)-BAGROV, V.G., SOKOLOV, A.A., TERNOV, I.M.
COUNTRY OF INFO--USSR
SOURCE--TOMSK, IZVESTIYA VYSSHIKH UCHEBNYKH ZAVEDENIY: FIZIKA; APRIL 1970,
PP 12-22
DATE PUBLISHED-----70

SUBJECT AREAS--PHYSICS

TOPIC TAGS--EDDY CURRENT, ELECTROMAGNETIC FIELD, RELATIVISTIC ELECTRON,
ELECTRON MOTION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--3004/1288

STEP NO--UR/0139/70/000/000/0012/0022

CIRC ACCESSION NO--AF0131743

UNCLASSIFIED

2/2 019

UNCLASSIFIED

PROCESSING DATE--13NOV70

CIRC ACCESSION NO--AT0131743

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE KLEIN GORDON EQUATION IS USED IN THE STUDY OF THE MOTION OF A RELATIVISTIC ELECTRON IN A FOCUSSED, CONSTANT MAGNETIC FIELD IN THE PRESENCE OF A STILL HIGHER FREQUENCY EDDY ELECTROMAGNETIC FIELD COMPENSATING THE RADIATION ENERGY LOSS. THE SOLUTIONS OBTAINED CAN FIND APPLICATION IN THE THEORY OF ELECTRON STORAGE RINGS, WHERE QUANTUM FLUCTUATIONS ARE ESPECIALLY NOTICEABLE. THE ARTICLE INCLUDES 54 EQUATIONS.

1141131743

1/2 011 UNCLASSIFIED PROCESSING DATE--18SEP70
TITLE--MULTI CHAMBERED POWER CYLINDERS -U-
AUTHOR--(02)-BAGROV, V.I., VAYSMAN, F.I.
COUNTRY OF INFO--USSR *B*
SOURCE--U.S.S.R. 234167
REFERENCE--OTKRYTIYA, IZOBRET., PROM. OBRAZTSY, TOVARNYE ZNAKI, NO 03
DATE PUBLISHED--24APR69

SUBJECT AREAS--MECH., IND., CIVIL AND MARINE ENGR
TOPIC TAGS--PATENT, HYDRAULIC EQUIPMENT

CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--1983/0166 STEP NO--UR/0432/69/000/000/0000/0000
CIRC ACCESSION NO--AA0053172
UNCLASSIFIED

2/2 011

UNCLASSIFIED

PROCESSING DATE--18SEP70

CIRC ACCESSION NO--AA0053172

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. MULTI CHAMBERED POWER CYLINDERS CONVENTIONALLY CONSIST OF A MAIN CASE WITH PARALLEL DIVIDING WALLS FORMING CHAMBERS FOR PISTONS AND RODS CONNECTED TO A MAIN ROD BUT ARE INADEQUATE BECAUSE OF THEIR LIMITED USE DUE TO THE SMALL NUMBER OF COMBINATIONS IN THE MOVEMENT OF CYLINDERS AND PISTONS RELATIVE TO EACH OTHER. THIS PATENT PROVIDES A MULTI CHAMBERED CYLINDER CONSISTING OF A PRINCIPAL CYLINDER 1 WITH TELESCOPIC MOVING CYLINDERS 2 AND 3, RODS 4 AND 5, WORKING CHAMBERS 6 AND 8 WITH CONCENTRIC CAVITIES A,B, AND C. THERE ARE INTERCONNECTING OIL ALLEYWAYS AND DISTRIBUTORS 9 AND 10 WITH SEPARATE CASES 11 AND 12 COMPLETE WITH SPRING LOADED PLUNGERS. ONE OF THE MOVING CYLINDERS WORKS IN CONJUNCTION WITH THE DISTRIBUTOR ARRANGEMENT AND PRESSURE SIGNALS IN THE CONCENTRIC CAVITIES THUS GUARANTEEING SIMULTANEOUS REGULATION OF THE VARIOUS MECHANISMS OF THE HYDRO SYSTEM.

UNCLASSIFIED

USSR

UDC 576.312.8

SHAPIRO, N. I., MANTSYGIN, Yu. A., and BAGROVA, A. M., Moscow State University
imeni M. V. Lomonosov

"Chromosomal Aberrations and Radiation Death of Somatic Mammalian Cells"

Moscow, Doklady Akademii Nauk SSSR, Vol 193, No 1, Jul/Aug 70, pp 207-210

Abstract: Synchronized cells from Chinese hamsters were cultivated in a suitable medium, after X-ray irradiation with an LD₅₀ dose. The cells, their nuclei, and chromosomes were studied. The nuclei of the irradiated cells showed pronounced changes in chromosomes, including changes in chromosome types also. Dicentric and ring chromosomes, fragments and chromatid-type chromosomes were noted and chromosomes with clear breaks. In all experimental doses of irradiation which produced a similar death rate of cells, the number of chromosomal aberrations was also similar. It is concluded that radiation death of the somatic cells was due to chromosomal aberrations.

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Acc. Nr:

AP0045546

Abstracting Service:

CHEMICAL ABST.

Ref. Code:

4-70 UR 0473

75397e Role of nuclear damage in radiation-induced death of synchronized Chinese hamster cells. Mantsvgin, Yu. A.; Baerova, A. M.; Shapiro, N. I. (Dep. Genet., Moscow State Univ., Moscow, USSR). *Genetika* 1969, 5(12), 49-61 (Russ). The role of nuclear damage in x-radiation-induced (reproductive) death of synchronized somatic cells of Chinese hamster in vitro (stages G₁ and late S) was studied. When modifiers of radiosensitivity (5-bromodeoxyuridine, cysteamine) were used, different doses of irradiation (differing by an order), resulting in the same lethality of cells, were found. Irradiation at these doses also caused constant and the same yield of chromosomal aberrations. The number of survivors corresponded well with the number of metaphases not containing chromosomal aberrations in the first mitosis after irradiation. Radiation-induced (reproductive) death of somatic cells of Chinese hamster was determined by radiation-induced damage of nuclear structures. The late S stage of mitosis was more resistant than G₁. Moreover, radiosensitization by bromodeoxyuridine (BUdR) incorporated into both strands of DNA was greater when cells were irradiated at the late S stage than at G₁. M. Rakovic

REEL/FRAME
19780514

USSR

UDC: 621.791.753.5.037-52:62-413:669.715

KORNEYEV, A. D., Candidate of Technical Sciences, ZUSIN, V. YA., Engineer, FILIPPOV, V. K., Engineer, BAGRYANSKAYA, S. K., Engineer, and MOLCHANOV, A. P., Engineer, Zhdanov Metallurgical Institute

"Automatic Hidden Arc Welding of Thick-Walled Aluminum"

Moscow, Svarochnoye Proizvodstvo, No 6, Jun 73, pp 48-49

Abstract: Aluminum 40mm thick was welded with a hidden arc (under ceramic flux) using the VDM-1601 rectifier as the power source. Two parallel connected VRSN-1000 rectifiers were used for metal thicker than 40mm. The butt joint welding of plates made from A5 aluminum was conducted with two electrode wires, perpendicular to the weld seam axis. A plate made from low-carbon steel with a milled groove was used in forming the reverse side of the seam. Specimens 40, 50, and 62mm thick, consisting of two plates, were welded in testing the one side, single pass method. Analyses of the macro- and microstructure of the seam metal show high density and the absence of pores and slag inclusions both in seam cross section and in places where the plates join the seam. The results show that single pass, one sided welding of sheets up to 70mm is possible without preheating and edge shaping.

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USSR

UDC 621.791.053:620.186.4

BAGRYANSKIY, K. V., Candidate of Technical Sciences, and OLDAKOVSKIY, A. I., Engineer, Zhdanov Metallurgical Institute

"Method of Testing Seam Metal for Resistance to Formation and Development of Crystallization Cracks"

Moscow, Svarochnoye Proizvodstvo, No 6, 1971, pp 39-40

Abstract: The authors have developed a method for testing seam metal for resistance to formation and propagation of crystallization cracks, corresponding to the requirements of maximum approximation of heat and deformation conditions in testing to conditions of development of these cracks during welding, high sensitivity, and satisfactory reproducibility. The method consists of welding a seam along two plates, one of which is held immobile while the other is slowly rotated so as to spread the seam as it is formed. The welding point is moved in the direction toward the point at which the two plates do not move relative to each other, but rather simply rotate. At some point, the two specimens will "seize." Observation of the seam formed and the rate of forced deformation at "seizure" is used to determine the welding qualities of the metal in the seam.

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PLEASE SEE BAY...
FOR BAI... NAMES.

USSR

UDC: 621.385.9(088.8)

BAGYAN, L. G., DOVBYSH, V. D.

"An Amplifier"

USSR Author's Certificate No 283312, filed 8 Dec 68, published 14 Dec 70
(from RZh-Radiotekhnika, No 6, Jun 71, Abstract No 6D110)

Translation: An amplifier is proposed which consists of an output transistor connected in a common-emitter circuit. Connected in the emitter circuit of the output transistor is the collector of another transistor with a Stabilatron in the base circuit. Also incorporated in the device is a two-stage amplifier based on transistors of opposite conductivity types with a variable resistor connected between the emitter of the first transistor and the collector of the second transistor. To increase the input impedance of the amplifier, the collector of the second transistor in the two-stage amplifier is connected through the Stabilatron to the collector of the input transistor.

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- 3 -

USSR

UDC: 621.372.822:621.372.853.2

ANISIMOV, Ye. V., VORONIN, V. I., BAINOVA, O. N.

"Investigation of the Propagation of Electromagnetic Waves in Combined Gyrotropic Media"

V sb. Vopr. elektron. tekhniki (Problems of Electronic Technology--collection of works), Saratov, 1970, pp 112-119 (from RZh-Radiotekhnika, No 6, Jun 70, Abstract No 6B134)

Translation: The authors consider propagation of waves in a rectangular waveguide with a combined ferrite-plasma medium in an external magnetic field transverse to the waveguide. Dispersion curves are calculated for a specific practical example. The analysis shows that such waveguides can be used in construction of delay lines and tunable band filters, and also in carcinotrons. Two illustrations, bibliography of five titles. N. S.

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USSR

UDC 621.039.8.002

BAK, M. A., BARANOV, YU. I., KRIVOKHATSKIY, A. S., and SHLYAKIN, E. A.

"Special Features of the Production of Th^{228} and U^{232} by Neutron Irradiation of Pa^{231} "

Moscow, Akademiya Nauk SSSR, Atomnaya Energiya, Vol 23, No 3, Mar 70, p 234

Abstract: A calculation was made of the U^{232} and Th^{228} accumulation by irradiation of Pa^{231} by slow neutron fluxes in the 10^{13} - 10^{16} neutron/cm² · sec density range. About 40% of the initial quantity of Pa^{231} was a maximum accumulation of U^{232} attained during the optimum irradiation time of 1.3 year at the 10^{14} neutron/cm² · sec optimal electron flux density. The maximum Th^{228} yield amounts to 0.9% at a 10^{13} neutron/cm² · sec flux density for 16.5 years. The U^{232} yield, equal to about 63%, can be attained in one year by the continuous extraction of U^{232} from the irradiated volume of Pa^{231} , irradiated in a loop by a 10^{14} neutron/cm² · sec flux. For comparison, only 35% is attained by protactinium irradiation under the same conditions. The accumulation of U^{232} by Pa^{231} irradiation by various slow neutron fluxes is shown in a table. Orig. art. has: 1 table.

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1/2 021 UNCLASSIFIED PROCESSING DATE--13NOV70
TITLE--THORIUM-228 AND URANIUM-232 PRODUCTION DURING THE NEUTRON
IRRADIATION OF PROACTINIUM-231 -U-
AUTHOR--(04)-BAK, M.A., BARANOV, YU.I., KRIVOKHATSKIY, A.S., SHLYANIN, E.A.
COUNTRY OF INFO--USSR **B**
SOURCE--AT. ENERG. 1970, 28(3), 234
DATE PUBLISHED-----70

SUBJECT AREAS--NUCLEAR SCIENCE AND TECHNOLOGY
TOPIC TAGS--NEUTRON BOMBARDMENT, SLOW NEUTRON, PROACTINIUM ISOTOPE,
FISSIONABLE MATERIAL, URANIUM ISOTOPE, THORIUM ISOTOPE

CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1998/0056 STEP NO--UR/0089/70/028/003/0234/0234
CIRC ACCESSION NO--AP0120756
UNCLASSIFIED

2/2 021

UNCLASSIFIED

PROCESSING DATE--13NOV70

CIRC ACCESSION NO--AP0120756

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. IN THE IRRADN. OF PRIME231 PA WITH SLOW N, THE MAX. ACCUMULATION OF PRIME232 U (SIMILAR TO 40PERCENT OF THE STARTING AMT. OF PRIME231 PA) IS OBTAINED BY IRRADN. FOR 1.8 YR AT THE OPTIMUM FLUX OF 10 PRIME14 N-(CM PRIME2-SEC); THE MAX. YIELD OF PRIME228 TH IS 0.9PERCENT, BY IRRADN. FOR 16.5 YR AT A FLUX OF 10 PRIME13 N-(CM PRIME2-SEC). THE AMT. OF PRIME228 TH IN EQUIL. WITH 1 G OF PRIME232 U IS 25.8 MG.

UNCLASSIFIED

1/2 014 UNCLASSIFIED PROCESSING DATE--27NOV70
TITLE--HALF LIFE OF CALIFORNIUM 252 SPONTANEOUS FISSION -U-

AUTHOR--(05)-ALEKSANDROV, B.M., BAK, M.A., BOGDANOV, V.G., BURGORKOV, S.S.,
SOLOVYEVA, Z.I.

COUNTRY OF INFO--USSR

SOURCE--AT. ENERG. 1970, 28(CT). 361-2

DATE PUBLISHED-----70

SUBJECT AREAS--PHYSICS, NUCLEAR SCIENCE AND TECHNOLOGY

TOPIC TAGS--HALF LIFE, CALIFORNIUM ISOTOPE, NUCLEAR FISSION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3008/0563

STEP NO--UR/0089/70/028/000/0361/0362

CIRC ACCESSION NO--AP0137648

UNCLASSIFIED

2/2 014

UNCLASSIFIED

PROCESSING DATE--27NOV70

CIRC ACCESSION NO--AP0137648

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE RATIO OF THE NO. OF ALPHA
DECAYS TO THE NO. OF SPONTANEOUS FISSIONS OF PRIME252 CF IS 31.34 PLUS
OR MINUS 0.08. FROM THIS RATIO A HALF LIFE OF 8.5 PLUS OR MINUS 0.4 YR
WAS FOUND FOR THE SPONTANEOUS FISSION OF PRIME252 CF.

UNCLASSIFIED

1/2 023 UNCLASSIFIED PROCESSING DATE--27NOV70
TITLE--RESONANCE INTEGRALS OF THE FISSION OF URANIUM, PLUTONIUM, AND
AMERICIUM ISOTOPES -U-
AUTHOR--(05)-PETRAZHAK, K.A., BAK, M.A., PETROV, YU.G., ROMANOV, YU.F.,
SHLYAMIN, E.A. B
COUNTRY OF INFO--USSR
SOURCE--AT. ENERG. 1970, 23(CT), 359-60
DATE PUBLISHED-----70

SUBJECT AREAS--PHYSICS, NUCLEAR SCIENCE AND TECHNOLOGY

TOPIC TAGS--NUCLEAR FISSION, NUCLEAR RESONANCE, INTEGRAL FUNCTION,
URANIUM, PLUTONIUM, AMERICIUM, FISSION CROSS SECTION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--3007/1066

STEP NO--UR/0089/70/028/000/0359/0360

CIRC ACCESSION NO--AP0136486

UNCLASSIFIED

2/2 023

UNCLASSIFIED

PROCESSING DATE--27NOV70

CIRC ACCESSION NO--AP0136486

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE FISSION RESONANCE INTEGRALS WERE DETD. TO BE PRIME233 U 850 PLUS OR MINUS 90, PRIME239 PU 330 PLUS OR MINUS 30, PRIME241 PU 550 PLUS OR MINUS 40, AND PRIME241 AM 21 PLUS OR MINUS 2 BARNS. THE FISSION RESONANCE INTEGRAL FOR PRIME235 U WAS TAKEN AS 274 PLUS OR MINUS 11 IN THE CALCNS.

UNCLASSIFIED

1/2 011 UNCLASSIFIED PROCESSING DATE--18SEP70
TITLE--X RAY DIFFRACTION STUDY OF SOME TRANS DIHALOTETRA AMMINOPLATINUM
SALTS -U-
AUTHOR-(03)-MIRONOV, YU.I., BAKAKIN, V.V., MALCHIKOV, G.D.
CCOUNTRY OF INFO--USSR
SOURCE--ZH. STRUKT. KHIM. 1970, 11(1), 161-4
DATE PUBLISHED-----70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--X RAY DIFFRACTION STUDY, PLATINUM COMPLEX, HALOGENATED ORGANIC
COMPOUND

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1987/0446 STEP NO--UR/0192/70/011/001/0161/0164
CIRC ACCESSION NO--AP0104059
UNCLASSIFIED

2/2 011

UNCLASSIFIED

PROCESSING DATE--14SEP70

CIRC ACCESSION NO--AP0104059

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE COMPS.: (PT(NH SUB3) SUB4 CL SUB2) CL SUB2 (I), (PT(NH SUB3) SUB4 BR SUB2) BR SUB2 (II), (PT(NH SUB3) SUB4 I SUB2) I SUB2 (III), (PT(NH SUB3) SUB4 CL SUB2) (NO SUB3) SUB2 (IV), (PT(NH SUB3) SUB4 BR SUB2) (NO SUB3) SUB2 (V), AND (PT(NH SUB3) SUB4 I SUB2) (NO SUB3) SUB2 (VI) WERE EXAMD. BY THE POWDER METHOD BY USING DIFFRACTOMETER AND CU KALPHA RADIATION. THE COMPLEXES I AND II AND IV AND V ARE ISOTYPIC, RESP. THE FOLLOWING DATA WERE DETD. (SPACE GROUP, LATTICE PARAMETERS, ZETA): I, IOTA4-MMM, A EQUALS 7.455, C EQUALS 7.997 ANGSTROMS, 2; II, IOTA4-MMM, A EQUALS 7.598, C EQUALS 8.288 ANGSTROMS, 2; IV, MINUS, A EQUALS 8.57, B EQUALS 7.05, C EQUALS 6.50 ANGSTROMS, ALPHA EQUALS 114DEGREES 16MINUTES, BETA EQUALS 110DEGREES 05MINUTES, GAMMA EQUALS 111DEGREES 48MINUTES, 1; V, MINUS, A EQUALS 8.62, B EQUALS 6.92, C EQUALS 6.69 ANGSTROMS, ALPHA EQUALS 114DEGREES 36MINUTES, BETA EQUALS 111DEGREES 22MINUTES, GAMMA EQUALS 109DEGREES 40MINUTES, 1. TADEUSZ J. BARTCZAK.

UNCLASSIFIED

1/2 031 UNCLASSIFIED PROCESSING DATE--16OCT70
TITLE--SPACE DIVERSITY RECEPTION SOUNDING OF THE ES LAYER -U-
AUTHOR-(02)-DVEZGELDYEY, ., BAKALDINA, V.D.
COUNTRY OF INFO--USSR
SOURCE--GEOMAGNETIZM I AERONOMIIA, VOL. 10, NO. 2, 1970, P. 355, 356
DATE PUBLISHED-----70
SUBJECT AREAS--ATMOSPHERIC SCIENCES
TOPIC TAGS--E LAYER, IONOSPHERIC STATION, IONIZATION, DIVERSITY RECEPTION,
ATMOSPHERIC SOUNDING
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--1997/0159 STEP NO--UR/0203/70/010/002/0355/0356
CIRC ACCESSION NO--AP0119155

UNCLASSIFIED

2/2 031

UNCLASSIFIED

PROCESSING DATE--16OCT70

CIRC ACCESSION NO--AP0119155

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. DISCUSSION OF SPACE DIVERSITY
RECEPTION DATA OBTAINED IN SUMMER 1966 FOR THE SPORADIC E LAYER AT TWO
IONOSPHERIC STATIONS SPACED 20 KM APART. THE DATA WERE OBTAINED WITH
IDENTICAL EQUIPMENTS AND ANTENNAS AND USING THE SAME PROGRAM. THE TIME
DIFFERENCE AT THE STATIONS DID NOT EXCEED 20 SEC. AN OBSERVED
DISCREPANCY BETWEEN THE FREQUENCY CHARACTERISTICS OF THE SPORADIC E
LAYER IS ATTRIBUTED TO THE PRESENCE OF A LARGE HORIZONTAL IONIZATION
GRADIENT IN THE LAYER. FOR STATIONS SPACED 20 KM APART, THIS GRADIENT
CAN CAUSE AN IONIZATION NONUNIFORMITY OF ROUGHLY 10PERCENT.
FACILITY: AKADEMIJA NAUK TURKMENSLOI SSR INSTITUT FIZIKI ZEMLI I
ATMOSFERY, ASHKHABAD, TURKMEN SSR.

UNCLASSIFIED

1/2 042 UNCLASSIFIED PROCESSING DATE--13NOV70
TITLE--SPACED PROBING OF THE E SUBS LAYER, PROBING OF THE E SUBS LAYER -
AUTHOR--(02)-OVEZGELDYYEV, O., BAKALDINA, V.D. B
COUNTRY OF INFO--USSR
SOURCE--INSTITUTE OF TERRESTRIAL AND ATMOSPHERIC PHYSICS, ACADEMY, OF
SCIENCES TURKMAN SSR; MOSCOW, GEOMAGNETIZM I AERONOMIYA, VOL X, NO 2,
DATE PUBLISHED--70
SUBJECT AREAS--ATMOSPHERIC SCIENCES, ELECTRONICS AND ELECTRICAL ENGR.
TOPIC TAGS--E LAYER, ANTENNA, IONOSPHERIC STATION, IONIZATION, VERTICAL
SOUNDING
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--1994/0350 STEP NO--UR/0203/70/010/002/0385/0386
CIRC ACCESSION NO--AP0114650
UNCLASSIFIED

2/2 042

UNCLASSIFIED

PROCESSING DATE--13NOV70

CIRC ACCESSION NO--AP0114650

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE SPATIAL STRUCTURE OF THE SPORADIC E LAYER WAS STUDIED IN THE SUMMER OF 1966 BY SPACED PROBING OF THE E SUBS LAYER AT TWO STATIONS ABOUT 20 KM APART. IDENTICAL APPARATUS AND ANTENNAS WERE USED AT BOTH POINTS. SIMULTANEITY OF MEASUREMENTS TO ABOUT 20 SEC WAS ENSURED. IN ADDITION TO 15 MINUTE OBSERVATIONS, SIMULATNECUS CONTINUOUS SOUNDINGS WERE MADE. THIRTY SUCH SERIES OF OBSERVATIONS WERE MADE WITH A TOTAL DURATION OF ABOUT 150 HOURS. COMPARISON OF THE TEMPORAL CHANGES IN FREQUENCY CHARACTERISTICS FOR THE E SUBS LAYER (F SUBO E SUBS AND F SUBB E SUBS) AT BOTH OBSERVATION STATIONS REVEALS THAT THEY DIFFER SOMEWHAT FROM ONE ANOTHER. FIRST, THE CURVES ARE IN SOME CASES DISPLACE RELATIVE TO ONE ANOTHER WITH AN ABSOLUTE TIME SHIFT UP TO 4 MIN; SECOND, THE VALUE AND NATURE OF THE F SUBO E SUBS AND F SUBB E SUBS VARIATIONS AT THE TWO OBSERVATION STATIONS ARE NOT IDENTICAL. IT WAS FOUND THAT F SUBO E SUBS AND F SUBB E SUBS VARY IN THE RANGES 0-5.7 AND 0-5.0 MC-SEC RESPECTIVELY. THE MEAN ARITHMETICAL VALUES F SUBO E SUBS AND F SUBB AND E SBUS VARY IN THE RANGE 0.46-2.4 AND 0.29-1.5 MC-SEC AND THEIR MEDIAN VALUES FROM 0.3-1.1 TO 0.2-1.2 MC-SEC. THE OBSERVED DISCREPANCIES IN THE FREQUENCY CHARACTERISTICS OF THIS LAYER CAN ONLY BE CAUSED BY THE HORIZONTAL GRADIENT OF IONIZATION IN THE E SUBS LAYER. THE RESULTS OF THE ANALYSIS THEREFORE INDICATE THAT THE E SUBS LAYER IS CHARACTERIZED BY A GREAT HORIZONTA IONIZATION GRADIENT.

UNCLASSIFIED

1/2 029 UNCLASSIFIED PROCESSING DATE--18SEP70
TITLE--EMERGENCE AND COURSE OF SILICOSIS IN SUBJECTS HAVING DISCONTINUED
EXPOSURE TO THE EFFECT OF DUST -U-
AUTHOR-(02)-ZISLIN, D.M., BAKALENIK, K.

COUNTRY OF INFO--USSR

SOURCE--GIGIYENA TRUDA I PROFESSIONAL'NYYE ZABOLEVANIYA, 1970, NR 4, PP
52-54
DATE PUBLISHED-----70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--RESPIRATORY SYSTEM DISEASE, INDUSTRIAL HYGIENE, PNEUMONIA,
HEPATITIS, TUBERCULOSIS

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1983/1229

STEP NO--UR/0391/70/000/004/0052/0054

CIRC ACCESSION NO--AP0054123

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2/2 029

UNCLASSIFIED

PROCESSING DATE--18SEP70

CIRC ACCESSION NO--AP0054123

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. ANAMNESTIC DATA WHICH MIGHT ACCOUNT FOR ADVERSE COURSE OF SILICOSIS IN THE POST DUST EXPOSURE PERIOD ARE ANALYZED. A TOTAL OF 1375 SILICOTIC PATIENTS FROM AMONG WORKERS OF REFRACTORY MATERIALS INDUSTRY, FOUNDRIES AND MINING ENTERPRISES WERE OBSERVED DYNAMICALLY. A NUMBER OF FACTORS INFLUENCE THE COURSE OF SILICOSIS IN PATIENTS DISSOCIATED FROM THE DUST EFFECTS, AND THE HIGHER THE DEGREE OF DUST AND PHYSICAL LOADS, THE QUICKER THE DISEASE COMMENCES TO PROGRESS FURTHER. LETTING THE PATIENT CONTINUE TO WORK IN A DUST LADEN ATMOSPHERE FOR OVER 1 YEAR AFTER ESTABLISHMENT OF THE DIAGNOSIS CONTRIBUTES TO A SWIFTER PROGRESS OF THIS MORBID CONDITION. IN CASES OF SUSPECTED SILICOSIS DISCONTINUATION OF EXPOSURE TO DUST GREATLY REDUCES THE FREQUENCY OF THE CONDITION BECOMING TRANSFORMED INTO SILICOSIS OF THE FIRST DEGREE, AS WELL AS FURTHER PROGRESS OF THE LATTER. SILICOSIS CAN ALSO DEVELOP AND RUN A PROGRESSIVE COURSE THROUGHOUT THE WHOLE OF THE LIFE TIME IN PENSIONARIES HAVING DISCONTINUED THEIR OCCUPATIONAL ACTIVITIES BECAUSE OF OLD AGE WITHOUT SUFFERING FROM SILICOSIS. SOME DISEASES SUCH AS PNEUMONIA AND HEPATITIS, SUSTAINED IN THE PAST, ARE CONDUCTIVE TO THE PROGRESS OF SILICOSIS. FEMALES ARE SEEN TO BE SUSCEPTIBLE TO AN EARLIER JOINING IN OF TUBERCULOSIS AND THE LATTER'S PROGRESS, BY COMPARISON WITH MALES.

UNCLASSIFIED

USSR

UDC: 621.373.431(088.8)

BAKALEYNIK, I. S., Moscow Electronic Tube Plant

"A High-Power Positive Pulse Shaper"

USSR Author's Certificate No 272362, filed 17 Mar 64, published 11 Sep 70
(from RZh-Radiotekhnika, No 2, Feb 71, Abstract No 2G250 P)

Translation: This Author's Certificate introduces a high-power positive pulse shaper which contains two stages based on tubes with resistance-capacitance coupling and a common resistor in the cathode circuit. In order to produce high-power positive pulses across the cathode resistor, a capacitor with a discharge time constant much greater than the duration of the shaped pulses is connected between the common point of the tube cathodes and the point where the plate resistor is tied to the decoupling element of the tube in the first stage.

1/1

Acc. Nr:

APC036535

Ref. Code: UR 0069

PRIMARY SOURCE: Kolloidnyy Zhurnal, 1970, Vol 32, Nr 1,
pp 98-103

EFFECT OF HYDROPHOBIZATION ON THE THICKENING ABILITY OF
SILICA (AEROSIL AND SILICA GEL)

Sinitzyn, V. V.; Bakaleynikov, M. B.; Akshinskaya, N. V.;
Nikitin, Yu. S.

Summary

The aerosil and silica gel surfaces have been subjected to waterproving treatment with n-butanol under different conditions. The thickening ability of untreated aerosil of different types: «175», «300» and «380» is approximately the same, regardless of its surface area determined with water and methanol. With increasing waterproving degree, the thickening ability of aerosil diminishes. With the same waterproving degree the thickening ability of aerosil subjected to the vapor-phase modification is higher than after treatment in an autoclave. The thickening ability of large-pored high-disjersed silica gel, both initial and modified, is much higher than for aerosil.

REEL/FRAME
19721383

7 Dr.

BAKALINSKIY, S. P.

UDC 550.83.08

ABSOLUTE MARINE COMPONENT MAGNETOMETER

[Article by G. V. Alekseyev, S. P. Bakalinskiy, A. Ya. Reishleya, and B. M. Tsurkayev, Leningrad, Geofizicheskaya Apparatura, Russian, Vol 47, 1971, pp 35-40]

During the continual geomagnetic measurements in the waters of seas and oceans performed from the nonmagnetic vessel Zarya, the errors in measuring the components and modulus of the geomagnetic field were: $\Delta H = 6\% \pm 100\mu$, $\Delta I = 4.0$. The difference in the measurements is caused by the fact that the relatively continual measurements of T by means of a ferrosounder magnetometer were controlled by the nuclear-precision one, while for control of the H component, a dual compass was used, the mean error of which during relatively quiet weather was $\Delta H = \pm 100$ [Ivanov, 1966].

In 1967, a marine component quantum magnetometer was developed and constructed by the Leningrad branch of IZMIRAN [Institute of Terrestrial Magnetism, the Ionosphere and Radio Wave Propagation of the USSR Academy of Sciences] jointly with IZMIRAN Special Design Bureau, in which a self-oscillating cesium sensor of the T magnetometer was applied [Kozlov, 1967]. During measurements from the moving vessel, the component magnetometer was placed on a gyrovertical device.

For reducing the deviation caused by the ferromagnetic masses of the gyrovertical device, magnetometer sensor 1 (Fig. 1), with compensating rings 2, is removed the maximum possible distance from them with the aid of a shaft, 4, 0.9 meter long. The shaft is placed in two bearings in a cylindrical casting 5, fixed directly to the external gimbal 6 of the four-gyroscopic gyrovertical device of the G2 type. The optical axis of the sensor is directed at an angle of 45° to the shaft revolution axis. A controlling device 3 permits compensating rings to rotate in two mutually orthogonal

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25 May 72

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TITLE--ANALYSIS OF A THYRATRON CIRCUIT WITH ONE STABLE STATE -U-
AUTHOR--(02)-BAKALINSKIY, V.P., BUGAYENKO, V.V.
COUNTRY OF INFO--USSR
SOURCE--AVTOMATIKA, VOL. 15, MAR.-APR. 1970, P. 80-83
DATE PUBLISHED-----70

SUBJECT AREAS--PHYSICS
TOPIC TAGS--GLOW DISCHARGE, THYRATRON, ELECTRIC VIBRATOR

CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--3007/1032 STEP NO--UR/0102/70/015/000/0080/0083
CIRC ACCESSION NO--AP0136459